

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

DRAFT

Minor Source, Construction / Operating

Permit: F-09-001

Kellogg's Snacks

Kemper, KY 41539

January 8, 2009

Lisa Beckham, Reviewer

SOURCE ID: 21-195-00234

AGENCY INTEREST: 3673

ACTIVITY: APE20080002

SOURCE DESCRIPTION:

On October 10, 2008 Kellogg USA, Inc. (Kellogg) submitted an application for an initial conditional major operating permit for Kellogg's Snacks in Kemper, KY. Additional information was received on November 13, 2008 and the application was considered complete on November 17, 2008. The facility produces baked goods intended for human consumption. Potential emissions of VOC from the facility exceed 100 tons per year. Kellogg is proposing a 90 ton per year limit on VOC emissions to preclude applicability of the Title V program [401 KAR 52:020]. Kellogg's Snacks operates three natural gas direct-fired ovens for the production of baked goods. Other equipment at the facility includes indirect heat exchangers (rated between 0.35 and 1.44 MMBtu/hr), use bins and silos.

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations, applicable to an emission unit that commenced on or after July 2, 1975.

NON-APPLICABLE REGULATIONS:

401 KAR 52:020, Title V permits. The permittee has taken voluntary federally enforceable emission limitations to preclude the applicability of these standards.

COMMENTS:

Emission Units 01, 02, and 05: Direct-Fired Ovens

Before entering the ovens the food products are made by first mixing dough and filling and then sending it to a forming line. Three natural-gas direct fired ovens (rated at 10.4, 10.4 and 11.82 MMBtu/hr) are then used for baking. After baking the product is cooled and then packaged. In addition to the products of combustion, VOC from the baking process are also emitted. Compliance with the PM emission limit in 401 KAR 59:010 is determined based on emissions of PM from combustion. While burning natural gas these units will emit below 2.34 lb/hr, so they will always emit below the PM emission limit determined by the process weight rate.

Kellogg will use the following formula to determine emissions from the baking process on a monthly basis:

$$\text{Monthly VOC (tons)} = \frac{\left[\sum_{j=1}^m \text{VOC}_j \right] + \text{EVI}}{2000}$$

j = each VOC bearing flavor

m = number of VOC-bearing flavorings used each month

VOC = VOC Content in flavor (%) * Flavor Usage (lbs/month)

EVI = Estimated VOC emissions (in pounds per month) from the combustion of fuel in the fuel burning sources and from insignificant activities.

Pursuant to 401 KAR 59:010, Section 3(2), particulate emissions from the stack shall not exceed $[3.59(P)^{0.62}]$ pound per hour, based on a three-hour average, where P is the weekly average processing rate in tons per hour. If the process rate weight is 1,000 lbs/hr or less than the limit on particulate matter emissions is 2.34 lbs/hr.

Pursuant to 401 KAR 59:010, Section 3(1)(a), any continuous emissions into the open air shall not exceed twenty (20) percent opacity, based on a six-minute average.

Pursuant to 401 KAR 52:030, Section 26, the permittee shall monitor and maintain records of natural gas usage (scf) on a monthly basis.

Pursuant to 401 KAR 52:030, Section 26 the permittee shall monitor and maintain records of the amount (lbs) of each VOC containing flavor used and the percent VOC content of each flavor on a monthly basis.

Insignificant Activities

9 Indirect heat exchangers rated at 1.44 MMBtu/hr or less

Wastewater treatment plant and flare

7 Storage Silos

5 Use Bins

Packaging Marking/Sterilizing Equipment

Natural gas and kerosene space heaters for comfort heating

SOURCE EMISSION AND OPERATING CAPS DESCRIPTION:

To preclude the applicability of 401 KAR 52:020, Title V permits, source-wide emissions of VOC of the ovens and insignificant activities, shall not exceed 90 tons per year based on a consecutive twelve-month rolling total. To demonstrate compliance with this emission limitation, the twelve-month rolling total, the emissions shall be calculated by adding monthly emissions to the previous 11 months emissions and reported to the Division regional office semi-annually or annually (see Section F of the permit F-09-001). The permittee shall maintain onsite, available for review by the Division, a log of the 12-month rolling total.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.